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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/645,729

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Purna Mohanty

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7590

03/23/2006

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EXAMINER

PARIHAR, SUCHIN

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

18

Office Action Summary	Application No.	Applicant(s)	
	10/645,729	MOHANTY ET AL.	
	Examiner	Art Unit	
	Suchin Parihar	2825	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to application 10/645,729, filed on 8/20/2003. Claims 1-20 are pending in this application.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features recited in claim 7: "translating each text based task associated with the verified test case to a compiled hardware description language (HDL) task", must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner suggests incorporating this inventive step into Figures 3 and/or 4.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because: On pages 1, 9 and 10 of the specification, the appropriate patent application serial numbers, incorporated as references, are missing from their corresponding lines. Also, please remove the reference to attorney docket number, which is found on page 1 line 6-7; attorney docket number references are not considered pertinent to the disclosure. Correction is required. See MPEP § 608.01(b).

The attempt to incorporate subject matter into this application by reference to the particular missing serial numbers is ineffective because there are no serial numbers provided, and the pertinent portions of each reference(s) are not listed.

The incorporation by reference will not be effective until correction is made to comply with 37 CFR 1.57(b), (c), or (d). If the incorporated material is relied upon to meet any outstanding objection, rejection, or other requirement imposed by the Office, the correction must be made within any time period set by the Office for responding to the objection, rejection, or other requirement for the incorporation to be effective.

Compliance will not be held in abeyance with respect to responding to the objection, rejection, or other requirement for the incorporation to be effective. In no case may the correction be made later than the close of prosecution as defined in 37 CFR 1.114(b), or abandonment of the application, whichever occurs earlier.

Any correction inserting material by amendment that was previously incorporated by reference must be accompanied by a statement that the material being inserted is the material incorporated by reference and the amendment contains no new matter. 37 CFR 1.57(f).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 6-8, 10 and 11 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

5. With respect to claims 6 and 10, the specification fails to describe how one of ordinary skill in the art would go about “associating text file based tasks of the test case to hardware description language (HDL) based tasks. Examiner notes that the specification refers to text file based tasks as well as HDL based tasks. However, the specification fails to clearly describe the association between the two types/versions of tasks in such a way as to enable one of ordinary skill in the art to make or use the inventive steps recited in claims 6 and 10.

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6. With respect to claims 7 and 11, the specification fails to clearly describe how one of ordinary skill in the art would go about “translating each text based task associated with the verified test case to a compiled hardware description language (HDL) task, and therefore fails to enable the subject matter of claims 7 and 11. Claim 8 depends from claim 7, and therefore claim 8 inherits the 112, 1st paragraph rejection applied to claim 7.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 9-13 are rejected under 35 U.S.C. 112, second paragraph**, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural/functional cooperative relationships are: With respect to claim 9, a relationship is missing between: “program instructions for executing ...”; and that which performs the execution, i.e. a computer. For example, Examiner suggests the following structural/functional relationship: --program instructions, when executed by a computer, cause a computer to perform ... --.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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10. **Claims 9-13 are rejected under 35 U.S.C. 101** because the claimed invention lacks patentable utility. The limitations of claim 9 are drawn to program instructions, only some of which are explicitly stated as being executed. With respect to those which are not explicitly stated as being executed, such as on line 6 of claim 9, "program instructions for receiving ...", these limitations are not considered as providing utility because computer instructions that are not executed are not considered as providing a useful result or product.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1, 3, 5, 9, 12-14, 16, 18 and 20 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Hartman et al. (US PG Pub 2003/0208351) in view of Akin et al. (6,182,245).

13. With respect to claim 1, Hartman teaches: identifying a test case associated with a client (pg 9, paragraph [0153], i.e. test suite generated for a number of clones [clones are associated with a client(s)]), submitting the test case to a pre-initialized simulation server from the client (pg 5, paragraph [0091], i.e. test cases provide input to the execution engine, wherein in the execution engine acts as a server because it serves the client/server system, see Figure 2), executing the test case on the pre-initialized simulation server (pg 5, paragraph [0092], i.e. discussion of execution engine executing

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test cases), communicating results from the test case execution to the client (see Figures 1 and 2: execution engine 10 of Figure 1 provides test case results #38, and outputs it to the client/server SUT of Figure 2, consider [Figure 2] the input/output relationship between the execution engine #12 and the SUT block), and executing a reset and initialization sequence at the pre-initialized simulation server to maintain the pre-initialized simulation server in an initialized state for a next test case (pg 10, paragraph [0161], i.e. server system that is able to process a next test case, also see Figures 12A and 12B). Hartman does not teach: verifying the test case at the client. However, Akin teaches: verifying the test case at the client (client sending test case instruction to server in order to obtain most accurate test case data from test-case data server, wherein that data is retrieved by the client system, Col 4, lines 55-62, in conjunction with Figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Hartman into the invention of Akin because Hartman would improve the invention of Akin by allowing Akin to evaluate the same test case repeatedly or evaluate the next test in a group/suite of test cases, prior to ending the testing process.

14. With respect to claim 9, Hartman teaches: program instructions for executing a reset and initialization sequence at a server to maintain the server in an initialized state (pg 10, paragraph [0162], i.e. if there is another test case, control resets back to step 166 of Figure 12A wherein another next state can be processed at the server); program instructions for executing the test case and recording results associated with execution of the test case (pg 5, paragraph [0090], i.e. execution engine executes test cases and

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provides validation results which are logged); program instructions for communicating the results to the client (see Figures 1 and 2: execution engine 10 of Figure 1 produces test case results #38, and outputs it to the client/server SUT of Figure 2, consider [Figure 2] the input/output relationship between the execution engine #12 and the SUT block, client has capability of receiving test results); and program instructions for resetting the server to maintain the initialized state for receiving a next test case (pg 10, paragraph [0162], i.e. if there is another test case, control resets back to step 166 of Figure 12A wherein another next state can be processed at the server). Hartman does not teach: program instructions for receiving a verified test case from a client in communication with the server. However, Akin teaches: program instructions for receiving a verified test case from a client in communication with the server (test client issues test case instruction to test server, wherein test case is verified because it is the exact test case that Program A requests from test client). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Hartman into the invention of Akin because Hartman would improve the invention of Akin by allowing Akin to evaluate the same test case repeatedly or evaluate the next test in a group/suite of test cases, prior to ending the testing process.

15. With respect to claim 14, Akin teaches: a client, the client configured to identify a test case (description of test case data, Col 4, lines 48-55) for simulation with the integrated circuit design (Col 4, lines 35-37), the client further configured to generate a verified file (test case data element, Col 4, lines 55-62) from the test case (description of test case data); a server (software program A, see Figure 3) in communication with the

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client; the server configured to maintain an initialized state, the server when in the initialized state configured to receive the verified file (test case data element –Directory Structure 318, Col 4, lines 55-62) from the client for execution, wherein after execution of the verified file, the server is enabled to communicate results (actual results from execution, Col 4, lines 65-67) to the client. Akin does not teach: the server resets to the initialized state. However, Hartman teaches: the server resets to the initialized state (see Hartman, Figure 12B, system prepared to reset/loop-back to process next test case or repeat current test case; also see discussion of Figure 12 starting on pg 9, paragraph [0151]). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Hartman into the invention of Akin because Hartman would improve the invention of Akin by allowing Akin to evaluate the same test case repeatedly or evaluate the next test in a group/suite of test cases, prior to ending the testing process.

16. With respect to claims 3, 13 and 18, Akin in view of Hartman teaches all the elements of claims 1,9 and 14, from which the claims 3, 13 and 18 depend respectively. Hartman teaches: wherein the results, or program instructions for communicating the results, are formatted as a results.log file and/or are generated as a results.log file (the output of the validation engine 36 is logged as validation results, pg 5, paragraph [0091]).

17. With respect to claims 5 and 12, Akin in view of Hartman teaches all the elements of claims 1 and 9, from which the claims depend respectively. Hartman teaches: wherein communicating the results to the client includes uninitializing the

simulation server (client clones disconnect from the server sequentially following execution of test case, pg 6, paragraph [0106])

18. With respect to claim 16, Akin in view of Hartman teaches all the elements of claim 14, from which the claim depends. Akin does not teach: a network providing a communication pathway between the server and the client. However, Akin teaches: a network providing a communication pathway between the server and the client (client system A is remotely coupled to test server by communications network, Col 4, lines 25-30).

19. With respect to claim 20, Akin in view of Hartman teaches all the elements of claim 14, from which the claim depends. Hartman does not teach: wherein both the client and the server are general-purpose computers. However, Akin teaches: wherein both the client (client test system A is a computer system, Col 4, lines 25-35) and the server (assumed to be a computer system, as it is described operating in a network, Col 4, lines 25-35) are general-purpose computers.

20. **Claims 4 and 19 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Hartman et al. (US PG Pub 2003/0208351) in view of Akin et al. (6,182, 245), and in further view of Conan et al. (6,810,364).

21. With respect to claims 4 and 19, Hartman in view of Akin teaches all the elements of claims 1 and 14, from which the claims depend respectively. Hartman in view of Akin does not teach: providing a queue associated with the pre-initialized simulation server, the queue configured to store the test case. However, Conan teaches: providing a queue associated with the pre-initialized simulation server, the

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queue configured to store the test case (server accesses three data resources including an active job queue and a complete job queue, Col 4, lines 55-60). Also, this queue is enabled to store a plurality of verified files, said files simply being test cases that have checked syntax and format of data. It would have been obvious to one of ordinary skill in the art to incorporate Conan into the invention of Hartman/Akin because a series of job queues enables Hartman/Akin to perform test-case based testing in a first-in-first-out ordering, as the queue would imply, therefore improving the invention of Hartman/Akin.

22. **Claims 2, 15 and 17 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Hartman et al. (US PG Pub 2003/0208351) in view of Akin et al. (6,182,245), and in further view of Danialy et al. (US PG Pub 2002/0073374).

23. With respect to claim 2, Hartman in view of Akin teaches all the elements of claim 1, from which the claim depends. Hartman in view of Akin fails to teach: wherein the method operation of verifying the test case at the client includes checking a syntax and a format of tasks defining the test case. However, Danialy teaches: wherein the method operation of verifying the test case at the client includes checking a syntax and a format of tasks defining the test case (syntax which may be used to specify test steps, test groups and runtime parameters, pg 4, paragraph [0043]). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the invention of Danialy into the Hartman/Akin combination because Danialy improves the testing process of Akin/Hartman by providing a specific syntax and format for which test cases must follow to make the testing process more efficient.

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24. With respect to claim 15, Hartman in view of Akin teaches all the elements of claim 14, from which the claim depends. Hartman in view of Akin does not teach: a storage medium in communication with the server, the storage medium configured to store compiled hardware description language based tasks corresponding to text based tasks associated with the verified file. However, Danialy teaches: a storage medium in communication with the server, the storage medium (embedded test IP access data, see Figure 4) configured to store compiled hardware description language based tasks (architecture description involved in producing a sequence of all of the instructions necessary to affect the test step specification [tasks], pg 5, paragraph [0067]) corresponding to text based tasks associated with the verified file (wherein verified file is the text-based test configuration file 50 of Figure 4, thus said association exists).

25. With respect to claim 17, Hartman in view of Akin teaches all the elements of claim 14, from which the claim depends. Hartman in view of Akin fails to teach: wherein the verified file includes a sequence of text-based tasks. However, Danialy teaches: wherein the verified file includes a sequence of text-based tasks (test configuration file [see Figure 2] illustrates the syntax used to specify test steps [tasks] which are text-based).

Conclusion

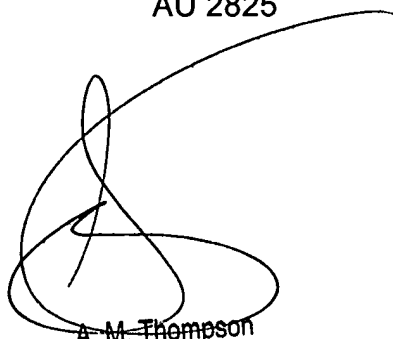
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suchin Parihar whose telephone number is 571-272-6210. The examiner can normally be reached on Mon-Fri, 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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